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I.—*Notes on the Nidification of some Birds from Burma.*

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(Plate I.*)

THE nesting of the following species is, I believe, not mentioned in Hume's 'Nests and Eggs,' though most of the cases have been recorded by me from time to time in the Journal of the Bombay Natural History Society.

A great number of the nests were found at the little hill-station of Sinlum-Kaba, situated at an altitude of about 6000 feet in the hills, 30 miles due east of Bhamo, Upper Burma. Others were found at Maymyo at about 3500 feet. This hill-station is situated on the edge of the Shan Plateau, 48 miles east of Mandalay.

I have used the following abbreviations :—

Fauna = The Fauna of British India, Birds.

Bombay Journ. = Journal of the Bombay Natural History Society.

Bull. B. O. C. = Bulletin British Ornithologists' Club.

Ann. Mag. N. H. = Annals & Magazine of Natural History.

Vög. pal. Fauna = Hartert, die Vögel der paläarktischen Fauna.

Pica pica sericea.

Pica rustica (Scop.); Oates, Fauna, i. 1889, p. 24; Harrington, Bombay Journ. xiv. 1902, p. 596, xix. 1909, p. 108.

* For explanation of the Plate see p. 26.

Pica pica sericea Gould; Hartert, Vög. pal. Fauna, i. 1903, p. 22.

The Chinese Magpie is common in the valleys of the southern Shan States, east of Fort Stedman, and in the Bhamo district on the Chinese frontier, two or three couples occurring round the station of Bhamo itself. I believe it also is common in the Ruby Mines district, round Mogôk. Its nest, which is similar to that of the English subspecies, is generally very conspicuous, and seems to be repaired from year to year, sometimes being very massive. On the frontier, where trees are very scarce, I once saw more than a dozen nests in one tree. It is an early breeder, laying in February and March, five and six being the usual complement of eggs. Both in the Shan States and in the Bhamo district, where crows are not plentiful, I have taken the eggs of the Koel (*Eudynamis honorata*) from the nest of the Chinese Magpie.

The eggs of this species are very similar to those of the English Magpie, but seem to me rather larger.

Average of eleven eggs	=	1.45	×	.98.*
Largest	=	1.5	×	.95.
Smallest	=	1.38	×	1.0.

Garrulus leucotis. (Plate I. figs. 19, 21.)

Garrulus leucotis Hume; Oates, Fauna, i. 1889, p. 39; Harington, Bombay Journ. xviii. 1908, p. 686; xx. 1911, p. 1003; xxi. 1912, p. 585.

I have recorded the nesting of the Burmese Jay in the above numbers of the Bombay Journal. It is widely distributed along the eastern side of Burma, from Tenasserim in the south, through Karennee and the Shan States up to the Bhamo district, where I procured a specimen near the Chinese frontier. It seems very partial to oak forests, and round Maymyo, where the jungles consist almost entirely of oak and chestnut, it is particularly common.

In April, 1910, I was ordered up to Maymyo, and on the 13th, during the march up, I found my first nest of

* All measurements are in inches.

G. leucotis. This was placed in a small sapling at about ten feet from the ground, and contained three incubated eggs; the old bird was sitting very close, and only flew off when we attempted to reach the nest. On the 30th, we came across a regular breeding colony of Jays, finding many old nests, and four containing eggs. A few days later I again visited the same strip of jungle, going through it almost tree by tree, and was rewarded in finding more nests containing both young birds and eggs. The next year I again took toll of the same colony: this, however, seems to have been too much for them, as I found that they had deserted the spot the following year. I never came across another colony, but found several nests with eggs, many of these having old nests near them; this shows that the Burmese Jay is very partial to nesting in the same locality, and occasionally breeds in small communities.

During the breeding season they are very silent birds, and are rarely to be seen in the vicinity of a nest; later on in the year they congregate in large family parties and are very noisy. The hen bird generally sits very close, often not leaving the nest until it is actually touched, when she glides quietly away. The breeding season seems to last through the whole of April and well on into May, but they are very irregular breeders, as I have found nests with fully-fledged young birds close to others containing fresh eggs. The number of eggs in a clutch also varies a great deal, as I have taken nests containing 2, 3, 4, and 5 incubated eggs. Many of these were addled, one clutch of five being all in this condition.

The most common site for a nest seems to be a small sapling; I have also found them placed in the forks of small trees, and against the trunks of large ones; a few were found in bushes, and three on stumps of trees, from three to four feet from the ground. Two nests containing eggs were found in the colony, within eleven paces of each other.

The nest consists of a rough outline of coarse twigs, inside which is a deep compact cup-shaped lining composed entirely of grass-roots.

The eggs are like those of other members of the family, and vary greatly in size and colour, some being a pale green, uniformly covered all over with minute dark olive-brown specks, these often forming a darker zone round the larger end, others are again distinctly spotted with the same colour; many also have black hair-like streaks, but these are very liable to wash off unless one is careful.

Average of fourteen eggs = $1.3 \times .95$.

Largest = $1.43 \times .97$.

Smallest = $1.2 \times .92$.

***Parus major commixtus*.**

Parus minor Temm. & Schleg.; Oates, Fauna, i. 1889, p. 48; Harington, Bombay Journ. xix. 1909, p. 109, xx. 1911, p. 1005.

Parus major commixtus Swinhoe; Hartert, Vög. pal. Fauna, i. 1903, p. 346.

The Chinese Grey Tit is the common Tit of the hills on the eastern side of Burma. I have never met with it in the plains, where *P. atriceps* occurs sparingly.

It has all the notes and habits of the English Great Tit, and is especially common in the oak forests and round the station of Maymyo itself. At Sinlum in the Bhamo Hills I found it nesting in holes in banks along the roadside, but at Maymyo always in holes of trees. Although such a common little bird, its nest, unless one watches it while building, is very difficult to find. Once out riding I spotted a Tit hurriedly leave a stump, which on investigation disclosed a nest containing six eggs. As I was unable to take it then, I thought I would make matters safe by stopping up the hole with leaves, as I had found by bitter experience that a nest once examined was very often robbed and destroyed before my next visit: whether this is the work of magpies and jays, or squirrels, I have never discovered. So on this occasion I thought I had thoroughly protected the eggs, but on returning next day and cutting into the nest, I found that I had been again forestalled, this time by a swarm of large black ants, which had destroyed all the eggs, barely leaving any shells behind.

The nest is of the usual type, a pad of moss lined with a few feathers, and a great deal of fur and hair. The eggs are also of the family type, white, profusely spotted with rusty red. Four to seven seem to be the general number laid.

The Maymyo eggs run larger than the Sinlum ones.

Average of seven Maymyo eggs = $\cdot 71 \times \cdot 5$.

Largest = $\cdot 73 \times \cdot 52$.

Smallest = $\cdot 70 \times \cdot 5$.

Average of four Sinlum eggs = $\cdot 63 \times \cdot 51$.

Largest = $\cdot 65 \times \cdot 51$.

Smallest = $\cdot 6 \times \cdot 5$.

Ægithaliscus erythrocephalus talifuensis. (Plate I. fig. 12.)

Ægithaliscus talifuensis Rippon, Bull. B. O. C. xiv. 1903, p. 18; Harington, Bombay Journ. xix. 1909, p. 110.

The Yunnanese Long-tailed Tit is fairly plentiful in the Bhamo Hills, and was originally described by Col. Rippon from Yunnan. It is an early breeder at Sinlum, and I think must have two broods, as during April and May I saw several family parties about. On the 28th of April, 1908, after having watched and hunted in vain for over a week, I was rewarded in finding a nest containing three eggs; this was placed between the stems of a wild raspberry bush, and at about two feet from the ground. It was a beautiful little miniature Long-tailed Tit's nest, composed on the outside entirely of moss, and lined with fine vegetable down, inside which was an inner lining of feathers. I also found another nest in the process of building, which seems to be a very lengthy operation, as I watched it for over a fortnight. When at last I thought it would be complete I again visited it, hoping to get another clutch of eggs, but I found I had been again forestalled, as the nest was completely destroyed, as well as another I was watching close by.

The eggs are a pure glossless white, with a zone of minute reddish spots round the larger end.

Average of three eggs = $\cdot 55 \times \cdot 44$.

Largest = $\cdot 57 \times \cdot 44$.

Smallest = $\cdot 52 \times \cdot 44$.

Suthora brunnea. (Plate I. fig. 3.)

Suthora brunnea Anderson ; Oates, Fauna, i. 1889, p. 68 footnote ; Harington, Bombay Journ. xvi. 1906, p. 740 ; xix. 1909, p. 111.

Anderson's Crow-Tit is a very common little bird in the Blamo Hills, above about 5000 feet. I first found its nest in May, 1905, when I visited Sinlum ; again in 1908 I found it very plentiful and got several nests. They are very noisy little birds when anyone approaches their nesting-site, and unless the bird is actually seen quitting its nest, it is almost impossible to find the nest, so well is it concealed. I found the best plan was to mark any spots where birds had been particularly anxious, and to return quietly later on, when in all probability the bird would be seen hurriedly leaving. The nests are generally placed well down in a clump of grass or reeds, within about two feet of the ground ; occasionally they are built on brambles in long grass. They are very compact and cup-shaped, composed of grass and bamboo leaves with a little moss, and lined with fine grass and horse-hair. Three, rarely two or four, seem to be the complement of eggs, which are of a pale spotless blue.

Average of nine eggs = $\cdot 64 \times \cdot 52$.

Largest = $\cdot 69 \times \cdot 53$.

Smallest = $\cdot 60 \times \cdot 50$.

Dryonastes sannio.

Dryonastes sannio (Swinhoe) ; Oates, Fauna, i. 1889, p. 76 ; Stuart Baker, Ibis, 1906, p. 90.

The White-browed Laughing-Thrush is the commonest bird of this family along the eastern hills of Burma, being equally plentiful at Sinlum, Maymyo, and in the southern Shan States in general, from 3000 feet upwards. Its nest and eggs have been described by Mr. Stuart Baker from Assam, and by myself and others from Burma, in the Bombay Journal. A most interesting fact, however, about this bird's eggs is the different types it lays, a point not alluded to by Mr. Stuart Baker. They vary from a pale blue-green to a skim-milk white, and to a glossy china-white, many of the latter having rough lines encrusted on

their surface. The eggs have an unmistakable shape, looking as if they had been suddenly blunted at the smaller end.

Average of ten eggs = $1.04 \times .75$.

Largest = $1.08 \times .76$.

Smallest = $.97 \times .76$.

Dryonastes cærulatus kaurensis.

Dryonastes kaurensis Rippon, Bull. B. O. C. xii. 1901, p. 13; Harington, Bombay Journ. xix. 1909, p. 111.

The Kachin Hills Laughing-Thrush was first described by Col. Rippon from the Kachin Hills east of Bhamo, where I found it fairly plentiful at about 6000 feet. It has a very fine whistling call, which can be easily imitated, and to which the bird readily answers. I only managed to get one nest, which was found by my Burman collector, the parent bird also being secured. The nest was placed in a clump of small mountain bamboos, and was of the usual Laughing-Thrush type, being composed entirely of bamboo leaves, and lined with fine grass. It contained two incubated eggs of a bright glossy blue, matching in colour those of *Garrulax pectoralis*, but they are rather long and pointed, measuring $1.26 \times .48$.

Trochalopteron milnei sharpei. (Plate I. figs. 16, 17.)

Trochalopteron sharpei Rippon, Bull. B. O. C. xii. 1901, p. 13; Harington, Bombay Journ. xix. 1909, p. 113.

Sharpe's Laughing-Thrush is the handsomest bird of this numerous family, which is so well represented in the Kachin Hills. It is a great skulker, and only found in dense undergrowth in valleys over 6000 feet. My first nest was procured by my Burman collector, who also shot the parent bird. As these eggs differed from those of any other Laughing-Thrush I had ever seen or heard of, and were of a totally different type, I thought he must have made some mistake. On the 29th of April, 1908, I luckily found a nest containing three eggs of the same description as those taken by him, so I promptly concealed myself, and managed to shoot both parent birds, who were very noisy and inquisitive.

After this I found other nests and procured the parent birds with them, so there can be no doubt that *T. sharpei* lays eggs of a totally different type, so far as is known at present, from those of any other member of the same family.

The nests were of the usual type, composed of bamboo leaves and grass, and were placed in bushes or against the side of trees. The eggs, of which two or three seem to be the usual complement, are very remarkable, being a dead white, either glossless or having a faint gloss, and are spotted either with dark red or black spots, a few having underlying purplish marks; in fact they are extremely like Orioles' eggs, though the texture is somewhat less smooth and close.

Average of eight eggs = $1.13 \times .82$.

Largest = $1.3 \times .8$.

Smallest = $1.0 \times .8$.

Trochalopterus phœniceum ripponi. (Plate I. fig. 15.)

Trochalopterus ripponi Oates, Bull. B. O. C. xi. 1900, p. 10; Harington, Bombay Journ. xix. 1909, p. 114.

Rippon's Laughing-Thrush was first described from the southern Shan States, and is fairly common in the Bhamo Hills, above 5000 feet. It is very noisy and a great skulker, but being very inquisitive is easily called up and shot. It builds a compact nest of the usual type, which it places from three to five feet from the ground in a sapling, thorn-bush, or clump of bamboos, and generally lays three eggs, occasionally only two; these are similar to those of *T. phœniceum*, being a beautiful pale blue, spotted and streaked with numerous fine curly lines of a dark red.

Average of six eggs = $1.01 \times .75$.

Largest = $1.1 \times .72$.

Smallest = $1.0 \times .76$.

Babax lanceolatus victoriae.

Babax victoriae Rippon, Bull. B. O. C. xv. 1905, p. 97; Venning, Bombay Journ. xxi. 1912, p. 622.

The nest of the Mt. Victoria Babbler was procured,

together with the parent bird, by Capt. F. E. W. Venning, who kindly gave both to me. I quote his description from the Bombay Journal. The nest was found at Haka, 6000 feet up in the Chin Hills.

“One nest found on the 13th of April. It was an open cup composed of dead leaves and thick grass stems, lined with fine root-fibres, placed about two feet above the ground, between the stems of a small thorny bush at the head of a little swamp. The interior diameter of the nest was $3\frac{1}{2}$ inches, with a depth of $1\frac{1}{2}$ to 2 inches. When found there was only one egg; a second was laid on the 14th, after which the bird was continually on the nest till the 18th, when it was shot and the nest taken.”

The eggs are of a pure turquoise blue, measuring “ $1.2 \times .86$ and $1.19 \times .83$.”

Babax lanceolatus yunnanensis.

Babax yunnanensis Rippon, Bull. B. O. C. xv. 1905, p. 96; Harington, Bombay Journ. xix. 1909, p. 112.

The Yunnan Babbler was first described by Col. Rippon from Yunnan, and seems to me to be identical with *B. l. lanceolatus*. I met with it in the Bhamo Hills, between 5000 and 6000 feet. It prefers the more open hill-sides, which are covered with bracken and bramble bushes, and never enters the dense secondary growth which springs up after cultivation. From the description of their plumage and habits, and from the colour of their eggs, the genus *Babax* seems to me more nearly allied to *Crateropus* than to the Laughing-Thrushes of the genera *Garrulax* and *Dryonastes*.

Nests found during May were of the usual Babbler type, and were placed in bushes and brambles quite close to the ground. The eggs, of which three or four seem to be the usual number, are a deep glossy blue of the regular *Crateropus*- and *Argya*-colouring, and are similar in colour to those of the last-named species, *B. l. victoriae*.

Average of nine eggs = $1.06 \times .8$.

• Largest = $1.14 \times .85$.

Smallest = $1.04 \times .75$.

Argya gularis.

Argya gularis (Blyth); Oates, Fauna, i. 1889, p. 107; Macdonald, Bombay Journ. xvii. 1906, p. 185.

Although the White-throated Babbler is such an extremely common bird in the dry zone of Upper Burma, the only mention of its nesting I can find is that of Mr. K. C. Macdonald in the above quoted Journal.

The "seven-sisters," as these birds and their nearest relatives are popularly called from their habit of always going about in family parties, are very familiar birds, being found alike around houses and villages, as well as in the jungles. They seem to breed almost throughout the year, but more especially during the hot weather, in March and April, building their nests in any convenient bush or clump of bamboos, even taking advantage of the trellis-work round verandahs. If the nest is in an exposed situation—and it is often placed in leafless bushes, it is a very flimsy cup-shaped affair of grass, through which the eggs are easily visible; if placed in a well concealed spot it is more substantial and compact. Three or four eggs of the beautiful dark blue shade peculiar to the family are laid.

Average of seven eggs = $\cdot 88 \times \cdot 68$.

Largest = $\cdot 93 \times \cdot 7$.

Smallest = $\cdot 85 \times \cdot 67$.

Pomatorhinus maclellandi gravivox.

Pomatorhinus gravivox David; Oustalet, Bull. Mus. Paris, 1898, p. 255; Harington, Bombay Journ. xix. 1909, p. 115.

David's Scimitar-Babbler is another Chinese species, which just finds its way across the border to within Indian limits, and is fairly common in the hills east of Blamo, at about 6000 feet; it seems to prefer the more or less open hill-sides to the dense evergreen jungles. I found several nests; all were placed on or near the ground, and were untidy dome-shaped structures composed of grass and leaves. They seem to be early breeders for those parts, as the first nest I found early in April contained two eggs on the point of hatching, and a little later in the month there were several young birds about.

Two or three seem to be the usual number of eggs laid ; they are of a pure glossless white.

Average of nine eggs = $1\cdot07 \times \cdot87$.

Largest = $1\cdot17 \times \cdot87$.

Smallest = $1\cdot03 \times \cdot8$.

Dryocataphus ignotus cinnamomeus. (Plate I. fig. 7.)

Dryocataphus cinnamomeus Rippon, Bull. B. O. C. xi. 1900, p. 12 ; Harington, Bombay Journ. xix. 1909, p. 115.

Rippon's Babbler was first described by him from the southern Shan States. I found it a decidedly rare bird in the Bhamo Hills at 6000 feet, only meeting with it twice, and finding only one nest ; it is a shy bird inhabiting dense undergrowth, and for this reason may be commoner than it seems. The nest was dome-shaped, compactly made of woven grass, and placed near the ground in long grass under some overhanging bamboos. It contained three eggs, of a pinkish ground-colour, profusely speckled all over with pinkish red, which formed a zone round the larger end ; they measure $\cdot84 \times \cdot56$.

Alcippe nepalensis fratercula.

Alcippe fratercula Rippon, Bull. B. O. C. xi. 1900, p. 11 ; Harington, Bombay Journ. xix. 1909, p. 116.

The Shan Hills Babbler, like the last, was first described by Colonel Rippon from the southern Shan States.

On carefully going through all the specimens of *A. nepalensis* (Hodgson) in the Natural History Museum, I find that the only ones from Burma which agree with *A. nepalensis* from Assam, are those collected in the Chin Hills by Colonel Rippon, while all the other so-called specimens of *nepalensis* from Burma are *fratercula*.

The distribution of these two sub-species is therefore :—

A. nepalensis nepalensis : Nepal, Darjeeling, Bootan, Assam, Munipur, Naga Hills and Chin Hills.

A. nepalensis fratercula : Bhamo Hills, Shan States, Karennee, Toungoo Hills, Tenasserim and Tavoy.

Although *A. n. fratercula* is so widely distributed in Burma, I only succeeded in finding its nests at Sinlum in the Bhamo

Hills. These were all placed in bushes within three or four feet of the ground; they were cup-shaped, and composed of fern leaves and grass, lined with some red fibre. Three nests were found in April and May at Sinlum, one containing four, and two, containing each two incubated eggs. These were all of the same type, having a white ground-colour, spotted all over with numerous rusty-red spots. Mr. Stuart Baker informs me he has received others from Burma, which have all the typical variations of those of *A. nepalensis* from Assam. Eggs from Bhamo measure from $\cdot 87 \times \cdot 58$ to $\cdot 77 \times \cdot 57$.

Stachyridopsis ruficeps bhamoensis. (Plate I. fig. 13.)

Stachyridopsis bhamoensis Harington, Ann. Mag. N. H. (8) ii. 1908, p. 245; id., Bombay Journ. xix. 1909, p. 116.

This Red-capped Babbler is a very common little bird in the Bhamo Hills, and inhabits dense undergrowth; it is very noisy and fussy during the breeding season, if any one invades its own particular bit of jungle. It builds an untidy retort-shaped nest entirely of bamboo leaves; this is well concealed in a clump of overhanging long grass, and unless the bird is actually seen leaving, almost impossible to find. I came across several nests at the end of April and beginning of May. The eggs are a pure white with a few pale reddish spots which more or less form a zone round the larger end; occasionally pure white eggs are laid. Three seem to be the usual number in one nest, but sometimes four are met with.

Average of seven eggs = $\cdot 65 \times \cdot 52$.

Largest = $\cdot 69 \times \cdot 5$.

Smallest = $\cdot 61 \times \cdot 55$.

Schœniparus dubius intermedius. (Plate I. figs. 6, 9.)

Schœniparus intermedius Rippon, Bull. B. O. C. xi. 1900, p. 11; Harington, Bombay Journ. xix. 1909, p. 117.

Rippon's Tit-Babbler was first described from the southern Shan States; the birds from the Bhamo Hills are intermediate between *S. mandelli* and *S. intermedius*, but much nearer the latter. They are very plentiful in the Bhamo Hills, building a loose dome-shaped nest, on or near the

ground; this is composed of grass and leaves, and falls to pieces if removed. The eggs, generally three in number, occasionally four, are identical with those laid by *S. mandelli*, and vary from a pale greenish to a pale yellowish stone-colour, spotted all over with numerous dark brownish spots, smudges and streaks; they measure about $\cdot 8 \times \cdot 6$.

Actinodura egertoni ripponi. (Plate I. fig. 18.)

Actinodura ripponi O.-Grant, Ibis, 1907, p. 186; Harington, Bombay Journ. xix. 1909, p. 118.

This Bar-wing is another species which is very hard to determine. My specimens from the Bhamo Hills seem to be nearest to *A. ripponi*, which was first described from the Chin Hills, although in some cases they are near *A. khasiana*, from Assam. It is not a very common bird up at Sinlum, and I only managed to get two nests, containing two eggs each. These were placed in bamboos, and were rather deep cups, composed of moss, bamboo leaves and roots, measuring 4×5 outside, and $2\cdot 5 \times 2\cdot 75$ deep inside.

The eggs are very handsome, being, like those of *A. khasiana* from Assam, a bright blue, spotted and streaked with numerous lines of a rich reddish-brown, and measuring $\cdot 9 \times \cdot 66$.

Yuhina diademata ampelina. (Plate I. fig. 14.)

Yuhina ampelina Rippon, Bull. B. O. C. xi. 1900, p. 12; Harington, Bombay Journ. xix. 1909, p. 119.

Rippon's Yuhina is very common up at Sinlum, and puzzled me a great deal when I was collecting, as it is quite unlike any other Indian bird, and it was only when I got home that I discovered to what species it belonged, and that it had been described from practically the same locality by Col. Rippon.

It is very Tit-like in its habits and notes, and continuously raises its crest and so reveals the conspicuous white patch at the back of its head. I found several nests during April; these were all placed between the upright stems of wild raspberry bushes, from three to four feet from the ground, and

were very flimsy affairs, made entirely of some black roots. The eggs, the usual number of which seems to be two, are very much like small editions of *Copsychus saularis*, being of a greenish-blue ground-colour profusely spotted, more especially at the larger end, with umber-brown spots.

Average of seven eggs = $\cdot 76 \times \cdot 60$.

Largest = $\cdot 80 \times \cdot 60$.

Smallest = $\cdot 75 \times \cdot 58$.

Staphidia striata.

Staphidia striata (Blyth); Oates, Fauna, i. 1889, p. 206; Bingham, Ibis, 1903, p. 590; Cook, Bombay Journ. xxi. 1912, p. 670.

Tickell's Staphidia is a little bird which is very rare in collections, and of which there is no good description. It was originally obtained in Tenasserim, and was procured later in Karennee; it is fairly common at Thandoung near Toungoo.

The following short description may be of use to others, as the descriptions in the 'Fauna' and the Catalogue of Birds in the British Museum are rather conflicting.

General colour above dull olive-brown; head darker with a greyish tinge, in some specimens a sooty-brown. The feathers of the head, mantle and back with white shaft-stripes. Ear-coverts dull chestnut, sides of the neck faintly tinged with the same. Wings and tail the same colour as the back but darker. The three outer tail-feathers broadly tipped with white. Underparts dull greyish white. Length about 5, wing and tail 2·37.

Its nesting was first described by Colonel Bingham, and subsequently by Mr. J. P. Cook from Thandoung, where I also procured its nest, which is always placed in a hole in a bank. The eggs are a pale bluish-white, boldly spotted with brown and purple.

Zosterops simplex.

Zosterops simplex Swinhoe; Oates, Fauna, i. 1889, p. 215.

Swinhoe's White-eye is plentiful up at Maymyo, and very partial to gardens. It builds a small cradle-like nest,

similar to that of *Z. palpebrosa*, and lays the same spotless pale blue eggs.

Hypsipetes concolor.

Hypsipetes concolor Blyth ; Oates, Fauna, i. 1889, p. 261.

The Burmese Black Bulbul is fairly plentiful down the eastern side of Burma, and does not ascend the hills to any great height. I found one nest at Thandoung, near Toungoo, containing two incubated eggs, on the 14th of May. This was placed near the top of a small sapling at about eight feet from the ground, and was rather a massive nest for a Bulbul. The eggs are similar to those of *H. psaroides*, from the Himalaya.

Pycnonotus xanthorrhous. (Plate I. fig. 8.)

Pycnonotus xanthorrhous Anderson ; Oates, Fauna, i. 1889, p. 286 footnote ; Harington, Bombay Journ. xvi. 1906, p. 741, xix. 1909, p. 122.

Anderson's Bulbul was first described from Yunnan ; since then it has been found to be common along the eastern hills of Burma above 5000 feet ; it prefers the open hill-sides covered with brambles, feeding on the wild raspberries which grow in such profusion. I found it particularly plentiful at Sinlum, and procured several nests. These were never more than two or three feet from the ground, and were generally placed on brambles in long grass, and I do not remember finding a single nest not placed in long grass. Three seem to be the usual number of eggs laid, occasionally only two ; these have all the variations peculiar to the Bulbul family, but are all invariably very glossy.

Average of nine eggs = $\cdot 80 \times \cdot 62$.

Largest = $\cdot 83 \times \cdot 63$.

Smallest = $\cdot 78 \times \cdot 63$.

Sitta nagaensis. (Plate I. fig. 10.)

Sitta nagaensis Godw.-Aust. ; Oates, Fauna, i. 1889, p. 302 ; Harington, Bombay Journ. xix. 1909, p. 122.

Godwin-Austen's Nuthatch was first discovered in the Naga Hills ; it is very plentiful in the hills on the eastern side of Burma, above 5000 feet, below which its place is taken by

S. neglecta. I think it must have two broods, as I had a nest containing four fresh eggs, together with the parent bird, brought me in April, and in the beginning of June saw a pair building. The nest was said to have been in a hole of a tree. The eggs are of the regular family type, white profusely spotted with red. They measure $\cdot77 \times \cdot58$.

Urocichla reptata oatesi. (Plate I. fig. 11.)

Urocichla oatesi Rippon, Bull. B. O. C. xiv. 1904, p. 83; Venning, Bombay Journ. xxi. 1912, p. 622.

I am indebted to Capt. Venning for the eggs and parent bird of the Chin Hills Wren, and quote his description from the Bombay Journal.

“ One nest was obtained on the 30th of April, on a sloping bank of dried grass beneath some trees. The bird was shot as it left the nest. The nest was a large oval-shaped domed structure, composed of an outer layer of dead leaves, canna leaves, coarse grass, etc.; inside was a layer of grass stems, fibres, and a little moss, the cup being lined up to the level of the entrance with a plaster of about one-sixteenth of an inch thick composed, as far as I could determine, of a substance which looked like chewed thistle-down or chewed grass. The bottom of the nest when first found was quite moist from contact with the damp ground. The dimensions of the whole were, exterior height six inches, diameter back to front five inches, side to side four inches. Entrance near the top about two inches across by one and a half high. Interior dimensions two inches each way, depth of cup inside from edge of entrance about one inch. Eggs three in number, measuring $\cdot73 \times \cdot6$, $\cdot72 \times \cdot6$, and $\cdot69 \times \cdot59$; they were a dull white, sparingly freckled with reddish and faint purple.”

Urocichla reptata sinlumensis.

Urocichla sinlumensis Harington, Ann. Mag. N. H. (8) ii. 1908, p. 246; id., Bombay Journ. xix. 1909, p. 123.

At Sinlum, on the 29th of April, 1905, a Kachin brought me in a nest containing three eggs which I could not identify, the nest being of a type entirely new to me, so I

at once set out for the spot where it had been taken in the hopes of securing the birds; but, though I waited about until dark, I had no success. The nest was of such a peculiar construction that I was unable to even guess to what family it might belong. On meeting Capt. Venning a few years later, and discussing the nesting of *U. oatesi*, I at once recognised that my nest must have belonged to Wren of the same family, as the descriptions of both were identical. When I was up at Sinlum in 1908, I procured specimens of *U. sinlumensis* in the same valley in which the nest had been found, but failed to find any nest. The bird itself is a most difficult one to shoot, as it frequents the banks of streams in very dense undergrowth; and as it has a very powerful song for so small a bird, is more often heard than seen.

The nest was placed on a bank in a very damp locality, the outside consisting of a loose ball of grass and leaves, which very soon fell to pieces; inside was a remarkable little cup made of some whitish substance, which had been worked up into a sort of papier-maché; this was quite hard and evidently waterproof, a very necessary arrangement, as the bottom of the nest when brought to me was quite damp. From the peculiarity of the nest, and from its situation, I think there can be little doubt that it belongs to this species. The eggs are different from those of *U. oatesi*, two being a spotless white, the third having a faint pinkish ground-colour sparingly streaked with darker pink; in shape they are pointed ovals and measure 75×55 .

***Cryptolopha tephrocephala*.**

Cryptolopha tephrocephala (Anderson); Oates, Fauna, i. 1889, p. 423; Harington, Bombay Journ. xix. 1909, p. 124; Venning, *ibid.* xxi. 1912, p. 627.

Anderson's Fly-catcher Warbler is a very common little bird up at Sinlum, but I only managed to get one nest, which was brought in to me by a Kachin, together with the parent bird. The nest was a large massive globular structure of grass and roots, lined entirely with moss, and was

said to have been placed in a bush about two feet from the ground. The eggs are a pure white and measure $\cdot 65 \times \cdot 48$. The nest of this species has also been found by Capt. Venning at Haka, in the Chin Hills; his eggs are slightly smaller than mine and average $\cdot 59 \times \cdot 46$.

Suya superciliaris. (Plate I. figs. 1, 5.)

Suya superciliaris Anderson; Oates, Fauna, i. 1889, p. 447; Harington, Bombay Journ. xviii. 1908, p. 686, xix. 1909, p. 124.

Anderson's Hill Warbler is well distributed in the hills on the eastern side of Burma. I have found it plentiful at Sinlum in the Bhamo district, and at Thandoung in the Toungoo district. It also occurs throughout the Shan States.

The usual type of nest is that of other members of the family, being a neat oval-shaped structure, made of woven grass, with a little moss in the foundation and on the top. Nests which I found at Thandoung were quite different, and were untidy balls of grass with a hole in the side, very like a miniature Munia's nest.

The eggs vary a great deal, there being half a dozen different types with intermediate forms.

(1) Pale bluish-white, spotted all over with numerous small rufous spots, which are more plentiful at the larger end.

(2) The same as the above, but the spots confined to the larger end, where they collect into a cap.

(3 & 4) The same as the above, but with a decided bluish-green ground-colour.

(5) White ground-colour, with numerous longitudinal rufous stripes.

(6) As before but on a blue ground.

(7) A pinkish ground-colour, with a decided zone of a darker shade round the larger end.

Average of fourteen eggs = $\cdot 63 \times \cdot 49$.

Largest = $\cdot 70 \times \cdot 5$.

Smallest = $60 \times \cdot 49$.

Prinia inornata burmanica. (Plate I. figs. 2, 4.)

Prinia inornata burmanica Harington, Bull. B. O. C. xxxi. 1913, p. 111.

The Upper Burma *Prinia* is very common round Mandalay, and in Upper Burma in general, starting breeding operations soon after the rains have begun, and nesting from June well on into September. The usual site for a nest is in rushes and long grass growing in or near water; I have also seen them attached to weeds and plants in gardens. The nest is of the family type, being a deep purse made from woven grass, with an opening at the top; this is attached to one or more stems of grass or twigs. A few birds nested in our Mess Garden at Mandalay; these built their nests in canna leaves, which were first sewn together, forming a cone, inside which the ordinary woven nest of grass was placed.

The eggs are like those of *P. i. inornata* from India, being a beautiful pale blue, blotched and streaked with numerous curly lines of dark red. I found two nests containing abnormally coloured eggs, totally unlike the usual type, and more like those of *Franklinia*, having a blue-green ground-colour, profusely dotted with rufous spots. One nest contained four eggs of this type, and the other two, while two were almost of the normal type.

Average of nine eggs = $\cdot 62 \times \cdot 45$.

Largest = $\cdot 65 \times \cdot 46$.

Smallest = $\cdot 58 \times \cdot 45$.

***Pericrocotus fraterculus*.**

Pericrocotus fraterculus Swinhoe; Oates, Fauna, i. 1889, p. 481.

The Burmese Scarlet Minivet is fairly plentiful round Maymyo. I, however, only managed to find one nest; this was placed at the end of a branch of an oak tree, situated on the golf-links. It was beautifully made of moss, coated with lichen and cobwebs, and had no special inside lining.

The eggs, three in number, are greenish stone-colour, and are profusely blotched with brown and pinkish-grey, which

more or less form a zone round the larger end; they measure $\cdot 78 \times \cdot 58$.

Campophaga melanoptera.

Campophaga melanoptera (Rüpp.); Oates, Fauna, i. 1889, p. 492.

I believe the nesting of the Pale-grey Cuckoo-Shrike has not been recorded from Burma before, though it has lately been described from China by Lieut. Vaughan, R.N., in 'The Ibis' of April, 1913.

I found this species very plentiful at Maymyo, but had very bad luck with its nests, of which I found three altogether. These were all shallow cups placed either in forks or on a branch, and were only noticeable after they had been given away by the birds. One contained two young birds and one egg. Another I watched building; the bird eventually started incubating one egg, which I took; a third, also building, was inaccessible. This bird has a monotonous call, very like the hen of the Rufous-bellied Cuckoo, *Cacomantis merulinus*, and is also very like the Drongo Cuckoo in appearance, and from a casual glance may often be mistaken for a Grey Drongo, and for these reasons be overlooked. My one egg is similar to those described by Lieut. Vaughan.

Oriolus tenuirostris.

Oriolus tenuirostris Blyth; Oates, Fauna, i. 1889, p. 503; S. Baker, Bombay Journ. ix. 1894, p. 118; Harington, *ibid.* xx. 1911, p. 1007, xxi. 1912, p. 587.

The Burmese Oriole is extremely plentiful at Maymyo, where we found several nests. These were suspended in the usual Oriole fashion, and were very substantially built of yellow grass and leaves, measuring outside about $6 \times 4 \times 3$ deep and inside $4 \times 3 \times 2\cdot 5$ deep. Nests are not easy to find, as they are remarkably well concealed, although one may be sure of their presence from the behaviour of the birds. Many were nesting near houses in the station of Maymyo,

and the extraordinary thing was that all the nests were built in close proximity to those of a Drongo: in fact, if there happened to be a "King Crow's" nest in the compound, and if any Orioles were heard, it was almost a certainty that their nest would be placed near that of the Drongo. I also found the Little Red Dove, *Æ. tranquebarica*, taking the same advantage and nesting under the protection of "King Crows." *O. tenuirostris* also breeds in the Fort at Mandalay, where I found one nest in my compound.

The eggs, which are usually three in number, are of the regular family type, a dull white, sparingly dotted with dark red and black spots.

Average of six eggs = $1.15 \times .86$.

Largest = $1.2 \times .88$.

Smallest = $1.12 \times .86$.

Æthiopsar albicinctus. (Plate I. fig. 20.)

Æthiopsar albicinctus (Godw.-Aust. and Wald.); Oates, Fauna, i. p. 541; S. Baker, Ibis, 1906, p. 269.

The nesting and eggs of the Collared Myna are now well known, and I have nothing to add to Mr. Stuart Baker's notes except the finding of a spotted egg, in a clutch of four, taken from a nest in a hole in the Fort Ditch at Bhamo, on the 15th of May, 1905. This egg is of the usual blue colour, but has numerous rusty red spots, and is now figured.

Oreicola ferrea haringtoni.

Oreicola ferrea haringtoni Hartert, Vög. pal. Fauna, i. 1910, p. 711.

Oreicola ferrea (Hodgs.); Oates, Fauna, ii. 1890, p. 66 [part]; Harington, Bombay Journ. xiv. 1902, p. 598, xviii. 1908, p. 686, xix. 1909, p. 299.

Hartert's Bush-Chat is a common breeding species in the hills of Burma above 5000 feet. When I first took its nest I was greatly struck with the colour of the eggs, which are quite different from the descriptions given of those of *O. ferrea* from India. In the 'Catalogue of Eggs in the British Museum,' Mr. Oates draws attention to this difference

between the eggs of *O. ferrea* from India and China, the latter agreeing with eggs from Burma.

All the nests I have found were in holes in banks, a favourite breeding place being on the side of the road-cuttings. The nests are made almost entirely of grass. The eggs are a pale hedge-sparrow blue, generally spotless, like those of *O. jerdoni*, a few having faint indications of minute red specks.

Passer flaveolus.

Passer flaveolus Blyth; Oates, Fauna, ii. 1890, p. 242.

The Pegu or Phongyi Sparrow, as it is often called from its yellow breast, has its stronghold in the dry zone of Upper Burma and the southern Shan States, and is sparingly found down as far as Rangoon; I did not meet with it in the Upper Chindwin or Bhamo districts. It is chiefly a jungle sparrow, a few pairs being found round houses. It starts building operations early in March, taking advantage of any convenient hole in trees or buildings. I have taken their eggs from the inside of old nests of *Munias (Uroloncha punctulata)*. The nest, when self-built, is of the ordinary sparrow type, and three is the usual number of eggs laid, though I once took a nest containing five. These are very like those of a Tree-Sparrow but are smaller and a good deal paler in colour.

Cypselus pacificus cooki.

Cypselus pacificus cooki Harington, Bull. B. O. C. xxxi. 1913, p. 57.

The only place where I have met with this Swift, is in the Goteik Gorge, on the Maymyo-Lashio railway-line, in the northern Shan States*. It is probably resident, as I have seen it there both in March and June, and during the latter month it was nesting in the caves, which form a natural bridge under which the river flows, and over

* In a letter received from Mr. J. P. Cook he states that he has recently discovered some new caves about 30 miles north of Goteik where these Swifts are to be met with in thousands.

which the railway-bridge is constructed. I have been informed that it also breeds in the tunnels on the Lashio side of the railway.

I visited these caves on the 2nd of June, and saw hundreds of birds flying in and out, and noticed numbers of nests which were quite inaccessible (it would be possible to reach a few with the aid of ladders). The caves are also infested with innumerable bats, which are very noticeable from the stench and the noise they make. These bats must take a heavy toll of the Swifts, as I picked up quite a number of eggs which had clearly been sucked; a few, which had fallen into pools of water, made quite presentable specimens. The Swifts themselves are difficult to procure, for if shot in or near the caves they fall into the river. Outside the gorge is very steep, and covered with dense jungle, so the only possible way to obtain specimens was to shoot them from the railway-bridge, which is some hundreds of feet high, and to have someone below to retrieve the birds. I picked up a fully fledged young bird in the caves, as well as a nest; this was saucer-shaped and composed of grass, leaves and feathers, cemented together with saliva. Two eggs picked up in the caves are a glossless white, and in shape elongated ovals, measuring $1.0 \times .67$.

Baza lophotes.

Baza lophotes (Temm.); Blanford, Fauna, iii. 1895, p. 409; Harington, Bombay Journ. xxi. 1911, p. 587.

The nest and eggs of the Black-crested Baza have been taken and described before, but as it is such a rare bird, it may be of interest to record the finding of it again.

I have seen this species on three or four occasions near Maymyo. In March last year, when returning from manoeuvres, I saw over a dozen birds. These were evidently migrating, as they were all in one party*. On the

* Note by Mr. E. C. STUART BAKER.—I doubt if they were migrating. *Baza lophotes* is much given to collecting in flocks at all times except during the breeding season.

29th of April, 1911, while out birds'-nesting at Wetwun, near Maymyo, I heard a pair of birds calling, and evidently very excited. On going in the direction we spotted a pair of Hawks flying round a clump of tall trees, on the bank of the river, below which were a troop of monkeys, who seemed to be the cause of all the trouble, as they made off on our approach; the birds then quieted down, one flying into the trees and settling on a nest. This was quite a small affair, placed at the end of a long branch, about a hundred feet up. I sent my Burmans to climb the tree and investigate; they were unable to reach the nest on account of the slenderness of the branch, but managed to get above and reported two eggs.

The only plan seemed to be to build up a ladder from below. We accordingly returned to the village to make arrangements, and soon after the men came back bringing a thin bamboo about 12 feet in length and a piece of black sticky beeswax; they then proceeded to demonstrate their plan, which was to extract the eggs with the aid of the wax at the end of the bamboo. They practised several times on a hen's egg, which they managed to pick up every time, and as this seemed to work all right, and was the easiest way of getting the eggs, we decided to adopt it. We then made a sort of landing net out of a cap fixed at the end of another bamboo, the idea being to hold the cap at the edge of the nest, and then to pick up the eggs with the aid of the wax at the end of another bamboo, and so place them in the cap. After a good deal of practice on the hen's egg the men started up the tree, two getting out as far as they could along the branch, one holding the cap in position at the edge of the nest, while the other extracted the eggs one at a time and placed them in it. They were completely successful in bringing down both eggs safely.

The nest seemed very small from below, and according to the men was composed entirely of twigs, lined with green leaves.

The eggs, which were incubated, are a dull spotless chalky white, and measure:— 1.5×1.3 and 1.48×1.25 .

Amaurornis bicolor.

Amaurornis bicolor (Walden) ; Blanford, Fauna, iv. 1898, p. 171 ; Harington, Bombay Journ. xx. 1910, p. 378.

Major Tancock, R.A., obtained the first record of the occurrence of Elwes' Crake in Burma, procuring a nest and six eggs, together with the parent bird, at Sinlum on the 9th of May, 1909.

When up at Sinlum on the 29th of May, 1905, whilst out birds'-nesting, my spaniel put up a Bamboo Partridge, *Bambusicola fytchii*, out of a small swamp. As the bird was extremely noisy, both before and after it got up, I felt certain that there must be a nest, so marking the spot, which was within a few feet of me, I told a Kachin, who was out with me, to look carefully—sure enough he found a nest, and brought out four unmistakable rail's eggs, which were quite warm. Together with the dog, we carefully hunted that swamp, which was only a few feet in diameter; without putting up another bird. Whether the Partridge only happened to be near the nest, or had usurped it, I cannot say, but the fact remains that the bird got up at the exact spot where the nest was found. These eggs puzzled me for a long time ; they are, however, exactly similar to Major Tancock's, and others I have received from Assam, where, I believe, *A. bicolor* nests freely in the Khasia Hills. At Christmas-time, 1909, I procured other specimens of *A. bicolor* at Sinlum, so it is evidently a resident and non-migratory species, inhabiting the small bogs and swamps in the Kachin Hills.

Arboricola brunneipectus.

Arboricola brunneipectus Tickell ; Blanford, Fauna, iv. 1898, p. 128.

My Burman collector found a nest containing four eggs of the Brown-breasted Hill Partridge at Toukchan, near Rangoon, on the 5th of June, 1907, procuring a bird near the same spot, so that I think there is little doubt that the eggs belong to this species, the only Hill Partridge occurring near Rangoon. These are a clear white with very little

gloss, and are almost identical in size and shape with those of *A. atrigularis* from Assam; they measure 1.49×1.1 .

EXPLANATION OF PLATE I.

Eggs of Indian Birds.

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|---|--|
| 1. <i>Suya superciliaris</i> . | 13. <i>Stachyrhidopsis ruficeps</i>
bhamoensis. |
| 2. <i>Prinia inornata burmanica</i> . | 14. <i>Yuhina diademata am-</i>
pelina. |
| 3. <i>Suthora brunnea</i> . | 15. <i>Trochalopterus phœniceum</i>
ripponi. |
| 4. <i>Prinia inornata burmanica</i> . | 16. <i>Trochalopterus milnei</i>
sharpai. |
| 5. <i>Suya superciliaris</i> . | 17. <i>Trochalopterus milnei</i>
sharpai. |
| 6. <i>Schœniparus dubius inter-</i>
medius. | 18. <i>Actinodura egertoni ripponi</i> . |
| 7. <i>Dryocataphus ignotus</i>
cinnamomeus. | 19. <i>Garrulus leucotis</i> . |
| 8. <i>Pycnonotus xanthorrhous</i> . | 20. <i>Æthiopsar albicinctus</i> . |
| 9. <i>Schœniparus dubius inter-</i>
medius. | 21. <i>Garrulus leucotis</i> . |
| 10. <i>Sitta nagaensis</i> . | |
| 11. <i>Urocichla reptata catesi</i> . | |
| 12. <i>Ægithaliscus erythrocephalus</i>
talifuensis. | |

II.—*Notes on Birds observed in Katanga, Belgian Congo.*

By L. BERESFORD MOURITZ, M.B.O.U.

IN 1911 I spent the last months of the year in the Katanga District of the Belgian Congo. The nature of the work in hand—a prospecting expedition under Anglo-Belgian auspices—unfortunately made it impossible to devote any time to the study of the local ornithology, and the following notes are simply the result of occasional observations made whilst out hunting, on the march, etc. It is perhaps hardly necessary to add that the few birds noticed do not in the least represent the great wealth of species which undoubtedly could be obtained by systematic collecting.

I arrived in Elisabethville about the middle of August, and after a short delay set out for the veld; but before leaving I was rather surprised to see a Black Helmet-Shrike (probably *Sigmodus tricolor*) in some tall trees in the Avenue du Moero.



H.Grönvold pinx.

West, Newman chr.

EGGS OF INDIAN BIRDS.